## Index of Claims

| <br>Application No. | Applicant(s)  | _ |
|---------------------|---------------|---|
| 10/636,177          | MARCUS ET AL. |   |
| Examiner            | Art Unit      | _ |
| Nikita Wells        | 2881          |   |

(Through num ral) Cancelled R j cted Allowed Restricted

Non-El cted Ν Interference

Appeal 0 Objected

|       |  | Ļ         | Т,       | <u> </u> |          |          |                 |          |          |              | _ |
|-------|--|-----------|----------|----------|----------|----------|-----------------|----------|----------|--------------|---|
|       |  | 9         | _        |          |          | <u> </u> |                 |          |          |              |   |
| U     | aim  | 11        | <b>.</b> |          | _        | Da       | te -            | _        |          | <del>-</del> | - |
| _     | 1 2 3 4 5 6 7 0  | 1         | *        |          |          | 1        | 1               |          |          |              |   |
| Final | <u></u>  | 12        |          |          |          |          | 1               |          | İ        |              | ļ |
| "     | ō  | X         |          | 1        | ľ        |          |                 | 1        |          | ľ            | ı |
|       | -  | 7         | /        | 1        | +-       | ↓_       | ┺               |          | ↓_       | ļ            | 4 |
|       | (1)  | 1/50 2    | 1_       | <u> </u> | ļ.,      | 4_       | _               | <u> </u> | ↓_       |              | 4 |
|       | 2  | Ц         | $\perp$  | ↓        | 1_       | 1.       | ļ.,             | $\perp$  |          | ļ            | _ |
|       | _3   | I.A.      | 1        | ↓_       | ┸        | _        | 1_              | L        | <u> </u> | ↓_           | 1 |
|       | 4  | П         | $\perp$  | _        | <u> </u> | _        | _               | L        | _        |              | Į |
|       | 5  | Ш         | ↓_       | _        | ļ.       | <u> </u> | $\perp$         |          | _        |              | 1 |
|       | 6  | Ш         | ↓        | _        | 1        | <u> </u> |                 |          | L        | _            | ┙ |
|       | 7  | Ш         | ↓        | <u> </u> | 1        | <u> </u> | $\perp$         | <u> </u> | L        | <u>_</u>     | 1 |
|       | 8  | Ш         | <u> </u> | $\perp$  | 1        | <u> </u> | _               |          |          |              |   |
|       | 9  | Ш         |          |          |          |          | L               |          | L        |              |   |
|       | 10   | Ш         | L        |          |          | L        |                 |          |          |              |   |
|       | 11   | Ш         | L        |          | Ŀ        | L        |                 | L        |          |              | J |
|       | 12   | Ш         | <u> </u> |          |          |          | ŀ               | L        | oxdot    | 匚            |   |
|       | 13   | $\coprod$ | 1_       |          |          |          |                 | L        |          | Ĺ            |   |
|       | 14   |           |          |          |          |          |                 | L        | Ĺ        | L            |   |
|       | 10<br>11<br>12<br>13<br>14<br>15<br>16                                     | Ш         |          |          | L        | 1        | L               |          | Ľ.       | Ŀ            |   |
|       | 16   |           | L        | L        | L        | L        |                 | L        | 匚        | Ĺ.,          | J |
|       | 17<br>18<br>19<br>20<br>21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29 |           |          | ٠,       | J        | Ŀ        | Ŀ               |          | Ŀ        |              | 1 |
|       | 18   |           |          |          | Ι        |          |                 |          | Г        | Ĭ            | 1 |
|       | 19   |           |          |          |          | П        |                 |          |          |              | 1 |
|       | 20   | П         |          |          |          |          | Г               | Π        |          |              | 1 |
|       | 21   | П         |          |          |          | -        |                 | T        | Ī        |              | ĺ |
|       | 22   |           |          |          | Г        |          | ١               | Ι"       |          |              | ١ |
|       | 23   | П         | Г        |          |          | Г        | T               |          |          |              | ١ |
|       | 24   |           | -        |          | Τ        |          |                 |          |          |              | ١ |
|       | <b>Q</b> 5)  |           |          |          |          |          | T-              |          |          |              |   |
|       | <b>(</b> 6)  | T         | П        |          |          |          |                 |          |          |              |   |
|       | 27   |           | Г        |          |          |          |                 |          |          |              | l |
|       | 28   | T         | T        |          |          |          |                 |          |          |              | l |
|       | 29   | T         | Ι.       |          | İ        |          |                 |          |          |              |   |
|       | 30<br>31   |           |          |          |          | Г        |                 |          |          |              |   |
|       | 31   | T         |          |          |          | <u> </u> |                 |          |          |              |   |
|       | 32   | T         |          |          |          |          | T               |          |          |              |   |
| . 1   | 33   | 1         |          |          |          |          |                 |          |          |              |   |
|       | 34   | 1         |          |          |          |          |                 |          |          |              |   |
|       | 35   | 1         |          |          |          |          |                 |          |          |              | Ė |
|       | 36   | T         |          | Γ        |          |          | Ī               | П        |          |              | : |
|       | 37   | T         |          |          |          |          |                 |          |          |              | i |
|       | 38   | T         |          |          | -        |          |                 |          |          |              |   |
|       | 39   | 1         |          | : '      |          |          | _               |          |          |              |   |
|       | 40   | Y         |          |          |          |          |                 |          |          |              | : |
|       | 41   | ٧,        |          |          | ,        |          |                 | $\dashv$ |          |              |   |
|       | 42   | 1         |          |          |          | Ĺ        | _               |          |          |              | i |
|       | 42<br>/43<br>44<br>45  |           |          |          | <u> </u> |          | $\Box$          |          |          | -            |   |
|       | 44   |           |          |          | Ι.       | . "      |                 |          | -        |              | : |
|       | 45   |           | П        |          | <u> </u> |          | П               |          | $\dashv$ | $\dashv$     | : |
|       | 46   | -         |          |          |          |          | Н               | -        | 一        | ⊣            |   |
| - 1   | 47   |           | H        |          |          |          | H               |          | -        | =            | : |
|       | 48   |           |          |          | -        |          | Н               | $\dashv$ | $\dashv$ | _            | : |
|       | 49   |           | Н        |          | -        | _        | $\vdash \vdash$ | -        | $\dashv$ | $\dashv$     | : |
|       | 50   | _         | $\vdash$ |          | Н        | _        | H               | -        | -+       | -            |   |
|       | 77   |           |          |          |          |          |                 |          |          |              | : |

| 7  |      | CI       | aim .  |          |          | -        |          | Dat    | e        |          | <u> </u> |     | 1   |
|----|------|----------|--|----------|----------|----------|----------|--------|----------|----------|----------|-----|-----|
| 1  |      |          |  | 1        |          | T        | Т        | T      | Ī        | Т        | Τ        | Т   | 1   |
| ŀ  |      | 70       | l a  |          |          |          |          |        |          |          | ı        |     | 1   |
|    |      | Final    | Ġ  |          |          |          |          | -      |          | 1        |          |     |     |
| ŀ  |      | _        | Original                                     |          | l        | i        |          |        | -        |          | ı        |     |     |
| 1  |      |          | 4  | -        |          | -        | ╀        | -      | $\vdash$ | ╀        | +        | ١., | 4   |
| ł  |      | <u> </u> | 51<br>52<br>53                               | H        |          | ┝        | ┢        | ļ      | ⊢        | 1        | +-       | ┼   | 4   |
| ┨  |      |          | 52   | <u> </u> | _        | ⊢        | <u> </u> | ╀      | 1        | ╀        | ╀-       | ↓_  | 4   |
| ŀ  |      |          | 53   |          | _        | _        | _        | ļ.,    | <b> </b> | <u> </u> | ┺        | ╙   | 4   |
| ŀ  |      |          | 54   |          | <u> </u> | _        | _        |        | <u> </u> |          | <u> </u> | ↓_  | 4   |
| 1  |      |          | 55   |          | L        |          | -        | _      | _        | ↓_       |          | ļ., | 1   |
| ŀ  |      |          | 56   |          | _        |          | <u> </u> | L      | L        | _        | 1_       | 1_  | 1   |
| ŀ  |      |          | -57  |          | _        |          | <u> </u> | _      | L        | <u> </u> | ╙        | ļ., |     |
| l  |      |          | 58   |          |          | <u> </u> | <u> </u> | _      | <u> </u> | <u> </u> | ╙        | Щ   |     |
| ŀ  |      |          | 59   |          |          | L.,      | _        | _      |          | _        | <u> </u> |     |     |
|    |      |          | 60   |          |          | <u></u>  | L        |        | L.       |          |          | 乚   |     |
| ľ  |      |          | 61   | . '      |          |          | <u> </u> |        | L        | L        |          |     |     |
|    |      |          | 62   |          |          |          |          |        | L        | <u> </u> |          |     |     |
|    |      |          | 63   |          | L        |          |          |        | L        |          | L        |     | ]:: |
|    |      |          | 64   |          | ٠.       |          | L.       |        |          |          |          |     |     |
|    |      |          | 65   |          |          |          | L        |        |          |          |          |     | ]   |
|    |      |          | 66   |          |          |          | L        | L      |          |          |          |     |     |
|    |      |          | 67   |          |          |          | L.       |        |          |          |          |     | ]:  |
| :: |      | · ·      | 68   |          |          | , .      |          |        |          |          |          |     |     |
| :: |      |          | 69   |          |          |          |          |        |          |          |          |     | 1   |
|    |      |          | 70   |          |          |          |          |        |          |          |          |     | 1   |
|    |      |          | 71<br>72<br>73                               |          |          |          |          |        | L.,      |          | -        |     | 1   |
|    |      |          | 72   |          |          |          | L        |        |          |          |          |     | ::  |
| :: |      |          | 73   |          |          |          |          |        |          |          |          |     |     |
| :: |      |          | 74<br>75                                     |          |          |          |          |        |          |          |          |     |     |
|    |      |          | 75   |          |          |          |          |        |          |          |          |     |     |
| :: |      |          | 76<br>77                                     |          |          |          | ·        |        |          |          |          |     |     |
|    |      |          | .77  |          |          |          |          |        |          | L        |          | _   |     |
|    |      |          | 78   |          |          |          |          |        |          | _        |          |     |     |
|    |      |          | 79   |          |          |          |          |        |          | _        |          |     |     |
|    | 1    |          | 80   |          |          |          |          |        |          |          |          |     |     |
| :: |      |          | 81   | _4       | _        |          |          |        |          |          |          |     |     |
|    |      |          | 82   | _        | _        |          |          |        |          |          | ġ        | ,   |     |
|    |      |          | 83   |          |          |          |          |        |          |          |          |     |     |
|    | L    |          | 84<br>85                                     |          |          |          |          |        |          |          |          |     |     |
|    | L    |          | 85   |          |          |          |          |        |          |          |          |     |     |
|    |      |          | 86   |          |          |          |          |        |          |          |          |     |     |
|    |      |          | 87   |          |          |          |          |        |          |          |          |     |     |
|    | -    |          | 88   | _        |          |          |          |        |          |          |          |     |     |
|    |      |          | 89   | $\perp$  | _        |          |          |        |          |          |          |     |     |
|    | 1    |          | 90   | _        | _        |          |          |        |          |          |          |     |     |
|    | L    |          | 91   | _        |          |          |          |        |          |          |          |     |     |
|    | 1    |          | 92   | 4        | _        | _        | _        |        |          |          |          | _   |     |
|    | Ļ    |          | 93   | _        | $\perp$  |          |          |        |          |          |          |     |     |
|    | ŀ    |          | 92<br>93<br>94<br>95<br>96<br>97<br>98<br>99 |          |          | _        |          |        |          |          |          | ]   |     |
|    | ::   |          | 95   | _        | _        |          |          |        |          |          |          |     |     |
|    | :: - |          | 96   | $\perp$  | _        |          |          | $\Box$ |          |          |          |     |     |
|    | 1    |          | 97   | _        | _        | _        |          |        |          |          |          |     |     |
|    | 1    |          | 98   | -4       | -        | _        | .        |        | _        |          | _        |     |     |
|    | : -  |          | 99   | 4        | _        | _        | _        | _      |          |          |          | _   |     |
| ŀ  | ٠L   |          | 100  |          | _1       |          |          |        |          |          |          | ┙   |     |

| Te   Te   Te   Te   Te   Te   Te   Te   | CI       | Date |   |          |              |          |  |  |            |              |          |
|---|----------|------|---|----------|--------------|----------|--|--|------------|--------------|----------|
| 102   |          |      |   |          |              |          |  |  |            |              |          |
| 102   |          | 101  |   | Τ        |              |          | 1  | 1  |            | <u> </u>     | 1        |
| 104   |          | 102  |   |          | T            | $\top$   |  |  |            | T            | П        |
| 104   |          | 103  |   | 1        |              | $\top$   | T  |  | 1          |              | П        |
| 105   |          | 104  |   | Τ        | T            | Τ        |  | 1.   | 1          | Ι.           |          |
| 107   |          | 105  |   |          | 1.           | $\top$   |  |  |            | Ι            |          |
| 107   |          | 106  |   |          |              | 1        |  | 1  | T          | Γ            | П        |
| 109   |          | 107  |   | Ι        |              |          |  |  |            |              | $\Box$   |
| 109   |          | 108  |   |          |              |          |  |  |            |              | I        |
| 111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149                       |          | 109  |   | L        |              |          |  |  |            |              |          |
| 112       113         114       115         116       117         118       119         120       121         122       123         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149 |          | 110  |   |          |              |          |  |  |            |              |          |
| 113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 111  |   | L        |              | Ľ.       | _  |  | <u> </u>   |              |          |
| 116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149                                 |          | 112  |   | ╙        | <u> </u>     | 1        | ļ_   | <u> </u>   |            | Ĺ            | Ш        |
| 116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149                                 | <u> </u> | 113  |   | $\vdash$ | <del> </del> | $\vdash$ | Ļ  | 1  | 1          | _            | Ш        |
| 116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149                                 |          | 114  |   | L        | <u> </u>     | $\vdash$ |  | 1  | 1          | <u> </u>     | Щ        |
| 117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   | Ь.       | 115  |   | <u> </u> | 1            | $\perp$  |  | +  | 1          | L.           | $\sqcup$ |
| 118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149   |          | 116  |   | -        | _            | ⊢        | -  | <del> </del> —                                   | 1          | L            | 1-1      |
| 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149   | $\vdash$ | 117  | _ | ├_       | ŀ            | 1        | -  | <del> </del> —                                   | H          | <u> </u>     | $\vdash$ |
| 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149   |          | 118  |   | -        | ╁            | $\vdash$ | <del> </del>                                     | -  | ⊬          |              | $\vdash$ |
| 121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   |          | 120  |   | $\vdash$ | ├-           | ├        | ⊢  | -  | -          | -            | $\vdash$ |
| 126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 121  |   | -        | ├─           | -        | ⊢  | ⊢  |            | H            | $\vdash$ |
| 126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 122  |   |          |              | -        | ┼—   | $\vdash$   | +-         | <del> </del> | $\vdash$ |
| 126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 123  | - | -        |              | ┢╌       | 1-   | 1  | $\vdash$   | ├            | Н        |
| 126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 124  |   |          |              |          | <del> </del>                                     | ╁─   | ┢╌         | -            |          |
| 126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 125  |   | -        |              | t        | <del>                                     </del> | t  | -          |              | Н        |
| 129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 126  |   |          |              | -        | 1  | $\vdash$   |            |              | Н        |
| 129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 127  |   |          |              |          |  |  |            |              | П        |
| 129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 128  |   |          |              |          |  | Г  |            |              |          |
| 134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>144<br>145<br>146<br>147<br>148<br>149   |          | 129  |   |          | _            |          |  | Г  |            |              |          |
| 134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>144<br>145<br>146<br>147<br>148<br>149   |          | 130  |   |          |              |          |  |  |            |              |          |
| 134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>144<br>145<br>146<br>147<br>148<br>149   |          | 131  |   |          |              |          |  |  |            |              |          |
| 134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>144<br>145<br>146<br>147<br>148<br>149   |          | 132  |   |          |              |          |  |  |            |              |          |
| 136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 133  |   |          |              | L_       | <u> </u>   | <u> </u>   |            |              |          |
| 136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 134  |   |          | _            |          | _  | -  |            |              | Ш        |
| 137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 135  |   |          | _            | <u> </u> | <u> </u>   | <u> </u>   | lacksquare | ļ.,          | Щ        |
| 138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |          | 136  |   |          | <u> </u>     | Ŀ        | H  | <u> </u>   | $\vdash$   |              |          |
| 139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |          | 130  |   |          | <u> </u>     |          | -  | -  | Н          |              | $\vdash$ |
| 140   |          | 130  |   | -        |              | -        | -  | -  |            |              | $\vdash$ |
| 141   |          | 140  |   |          | $\vdash$     | -        | -  |  | Н          |              | $\dashv$ |
| 142   |          | 141  | + |          | $\vdash$     | —        | $\vdash$   | <del>                                     </del> | $\vdash$   |              | $\dashv$ |
| 143   |          |      |   | -        |              | -        |  | -  | H          | -            | $\dashv$ |
| 144   |          |      | T |          |              |          |  |  |            |              | $\dashv$ |
| 145   |          |      | ٦ |          |              | -        |  |  | Н          |              | $\neg$   |
| 146   |          |      |   |          | _            |          |  |  |            |              | $\neg$   |
| 148<br>149  |          | 146  |   |          |              |          |  |  |            |              | $\neg$   |
| 149   |          |      |   |          |              |          |  |  |            |              |          |
|   |          |      |   |          |              |          |  |  |            |              |          |
|   |          |      |   |          |              |          |  |  |            | $\Box$       |          |
| 150   |          | 150  |   |          |              |          |  | Ļ  |            |              |          |